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SYNOPSIS OF THE NORTH AMERICAN SPECIES OF HYPOXYLON AND NUMMULARIA.

BY J. B. ELLIS AND BENJA. M. EVERHART.

(Continued from page 93.)

*HYPOXYLON OBESUM, Fr. Nova Symb. p. 129.—On trunks in Costa Rica. *Oersted.* Hard-carbonaceous, bare, black. Stroma slightly exceeding the short, very thick stipe, of radiate structure and cinerous-black within. Perithecia immersed, peripheric, bullate-prominent. Ostiola papillate, surrounded by an elevated, orbicular margin. Fries who described this species from a single specimen says it is allied to *H. annulatum*, that it is very hard, an inch high, and, at least when mature, quite bare, glabrous and shining black. The sterile base or stipe is $\frac{1}{2}$ an inch high but $\frac{3}{4}$ of a line (“ $\frac{3}{4}$ lin.”) thick†, rugose outside and attenuated below, covered above with a horizontal, slightly convex layer of globose, immersed, monostichous, bullate-prominent perithecia, like an immarginate pileus an inch across. The bullate projections of the perithecia are surrounded with a prominent orbicular margin and in the middle of this circular area emerge the papilliform ostiola. The specimen seen by Fries was old and entirely without spores.

HYPOXYLON ILLITUM, Schw. Syn. N. Am, 1205.—Not infrequent on standing trunks, especially of *Platanus*, investing them almost completely with its broad, uneven, confluent stromata. Bethlehem, Pa. (Schw.) Widely effused, confluent, the layers often superimposed, so as to imitate a sculptured surface, the material of the stroma appearing as if smeared on the decaying wood. Surface undulate and uneven, at first of a fine olive-green, but finally black. Perithecia rather large, slightly prominent, with ostiola

* Accidentally omitted in its proper place next to *H. marginatum*.

† Apparently a mistake for 3-4 inch.

indistinct or acutely conic and thick walls, surrounded with a sparing white stroma. Sporidia 14—16 x 4 (Cke. l. c.)

HYPOXYLON CARIES, Schw. Syn. N. Am. 1222.—On rotten oak, Newfield, N. J. (1874), Also on rotten elm (*Ulmus Americana*), Concordia, Mo., Dec. 1887. Rev. C. H. Demetrio, No. 56. Stroma effused, black within and without, colliculose and uneven from being composed apparently of many smaller stromata 3—10 mm. in diam. fused together laterally more or less perfectly into a continuous or partially interrupted crust irregular in outline and several centimeters in extent. Perithecia subglobose, $\frac{1}{2}$ — $\frac{3}{4}$ mm. diam. their apices slightly prominent with a subacute papilliform ostiolum surrounded by an indistinct lighter colored ring which however is not impressed or sunk into the stroma as in *H. annulatum*. In the specimens examined the asci had disappeared. Sporidia navicular-fusoid, (subhyaline) pale smoky-brown, ends subacute, 10—12 x about 3 micr.

HYPOXYLON INVESTIENS, Schw. Syn. N. Am. 1210.—On rotten wood, Carolina and Penna. (Schw.), Alabama (Beaumont in Rav Fungi Car. IV, 33), Louisiana (Langlois, No. 991) on *Salix*. Seated on a thick sterile crust that spreads over and blackens the wood following all the inequalities of its surface. On this crust stand densely crowded in a single series the regularly oblong perithecia forming a continuous layer about $\frac{3}{4}$ mm. thick and 4—9 cm. long and wide. The stroma is very scanty covering the perithecia with a thin black stratum mammillose above from the slightly projecting perithecia, with their papilliform deciduous ostiola. In the specimens in Rav. Car. as well as in the La. spec. the surface of the stroma has a distinct purplish tinge. We have not seen the asci but the sporidia are oblong, pale brown 6—10 (mostly 6—8) x 3—4. *H. effusum* Nitschke is closely allied to this.

HYPOXYLON RAVENELII, Rehm. Hedwigia, 1882, p. 137.—(*H. confluens*, Fr. in Rav, F. Am. 348.) On bark of decaying oak, Darien, Ga. Peithecia single or conerescent 2—8 together, occasionally seriate 6—12 in a series 3—6 mm. long, nearly globose $\frac{3}{4}$ —1 mm. diam. with their bases slightly sunk in the wood (our spec. is on wood and not on bark), ostiolum distinct papilliform, black and shining. The perithecia are of a dead grayish-black. Asci very long, cylindrical with abundant well developed paraphyses. Sporidia elliptical, obtuse, pale-brown, with 1—2 large nuclei, uniseriate, 10 x 5 micr.

This is entirely different from *H. Ravenelii*, Sacc. Syll. I, p. 389 (*H. erinaceum*, B. & Rav.) which (sec. Cke. Grev. XI, p. 128 is a

Valsa with long necked perithecia and hyaline allantoid sporidia. Whether the above described fungus is the *Sphæria confluens*, Tode can not perhaps now be certainly decided. It agrees tolerably with Tode's fig. but it is not that species as understood by Nitschke and described by him (under *Hypoxyton semiimmersum*) as having sporidia 16—20 x 8—10 and by Fckl. (under the name of *H. udum*) as having sporidia 28 x 10 micr. We have therefore accepted *H. Ravenelii*, Rehm. as a distinct species:

HYPOXYLON? ATROFUSCUM, B. & C.—(*Fuckelia atrofusca*, B. & C. Grev. XII, p. 51.) On bark of *Rhus glabra*, mountains of Virginia. Pustules erumpent, very small (hardly $\frac{1}{2}$ mm. diam.), elliptical margined by the ruptured bark. Perithecia unequally distributed in the black, depressed stroma. Asci cylindrical, stipitate. Sporidia elliptical, brown, 13 x 7 micr.

The following species are placed by Cooke (in Grev. XI, 139) under the head of *Doubtful* and as we have no knowledge of them we leave them there:

- H. glomus, B. & C.
- “ exaratum, Schw.
- “ Sphæriostomum, Schw
- “ hydnicolum, Schw.

H. afflatum Schw. is said by the same author to be allied to *Diatrype stigma*, with hyaline sporidia.

*HYPOXYLON Bull. (p. p.)—Stroma carbonaceous, subhemispherical or more or less effused, convex or plane, at first clothed with a conidial growth (mostly some shade of red or yellow), finally bare and black. Perithecia peripheric, mostly in a single layer, more or less immersed in the stroma. Asci cylindrical, with paraphyses. Sporidia mostly uniseriate, subovoid, dark-colored, continuous.

DALDINIA, De Not. et Ces.—Stroma superficial, subglobose, external layer carbonaceous, becoming black, fibrous within and concentrically zoned. Asci cylindrical, 8-spored, pedicellate. Sporidia ovoid or oblong, dark colored, Perithecia immersed in the stroma.

DALDINIA CONCENTRICA, (Bolt.)—*Sphæria concentrica*, Bolt. Fungi Hal. tab. 180.—On dead trunks of various deciduous trees. Common from New England to California and from Canada to Louisiana.

Stroma subspherical or hemispherical, rarely obovoid, subferruginous and softer at first, at length black and carbonaceous,

* The generic characters were accidentally omitted at the beginning of this synopsis and are given here.

2—4 cm. diam. Softer inside, of a radiate-fibrous structure and concentrically zoned. Perithecia monostichous, obovoid-oblong, 1mm. or a little more in length and about $\frac{1}{2}$ mm. broad, more or less angular from mutual pressure. Ostiola slightly prominent, punctiform, minute. Sporidia obliquely uniseriate, inequilaterally-elliptical, dark brown and finally opaque, 12—15 x 7—10. Asci long-pedicellate, 80—100 x 8—10 (p. sp.), with long, filiform paraphyses.

DALDINIA VERNICOSA, (Schw.)—*Sphæria vernicosa*, Schw. Syn. N. Am. 1175. Stroma large ($2\frac{1}{2}$ —3 x 1— $1\frac{1}{2}$ cm.), subturbinate, suddenly contracted below into a thick, stipe-like base which is sometimes concentrically wrinkled, surface of the stroma ferruginous at first from the conidial layer, finally black and shining. Perithecia peripheric, subglobose (sec. Schw.) but in all the specimens we have seen, ovoid-oblong about the same in size and shape as in the preceding species. Saccardo in Sylloge says perithecia polystichous but Schweinitz does not say so nor have we ever found them so though a vertical section through one side of the stroma shows them *apparently* so but this is only apparent as may be seen in a vertical section through the center of the stroma. We find the asci and sporidia about as in the preceding species though in the Sylloge they are said to be longer and narrower. This is a common species around Newfield and we have also received it from New England and New York. This is distinguished from *D. concentrica* by its shining black stroma and the looser texture of the radiate-fibrous inner substance which is cut by 8—12 dark colored, membranaceous horizontal layers or plants. These are very noticeable in a vertical section even in the young plant while it is still covered with the conidial layer and before the terminal, subglobose, ascigerous stroma has begun to appear. In the mature state, the fibrous inner substance and the horizontal membranes disappear to a greater or less extent and leave the stroma more or less hollow so that it may be easily crushed with the fingers, but in *D. concentrica* the inner substance remains firm and is also of a darker color.

“DALDINIA CINGULATA, (Lev.) Sacc.—*Sphæria cingulata*, Lev. Ann. Sci. Nat. 3, 1845, p. 47. Obovata, erecta, substipitata, crustaceo-laccata, efusco-nigra nitida, cingulis peritheciis notata; peritheciis interioribus demum albis, stromate immersis, ostiolis obsoletis.

Hab. ad truncos prope New York (MÉNAUD).

Stroma 1—2 dec. alt., 1 dec. crass.”

The foregoing description of this species is copied from Sacc.

Syll. I, p. 395. We do not get a clear idea of what is meant by "cingulis peritheciis," but suspect that *D. cingulata* (Lev.) is the same as *D. vernicosa*. There is nothing in Leveille's description to distinguish this from *Sphaeria vernicosa*, Schw.

DALDINIA LOCULATA, (Lev.)—*Sphaeria loculata*, Lev. l. c.—Globosa, substipitata, atra, opaca; peritheciis obovatis stromate nigro immersis, ostiolis prominulis, nitidis, subhemisphericis; ascis sporidiisque generis. Hab. in America, ad truncos. Stipes brevis asperulus. This too is copied from the Sylloge and is all we know about it.

USTULINA, Tul. Sel. Carp. II. p. 23.—Stroma superficial, subeffused, rather thick, determinate, at first carnose-suberose and clothed with the pulverulent, cinereous conidial hymenium, finally rigid, carbonaceous, black and bare and generally more or less hollow. Perithecia immersed, large, with papilliform ostiola. Asci pedicellate, 8-spored, paryphysate. Sporidia ovoid-fusiform, continuous, dark colored.

USTULINA VULGARIS, Tul. l. c. *Sphaeria deusta*. Hoff. Veg. Crypt. I. p. 3. *Sphaeria verspellis*. Tode. Meckl. II p. 55. On roots of decaying stumps. Found in Europe, America and Australia. Common throughout the eastern U. S. and reported by Dr. Harkness from California. Stroma superficial, subeffused, 3 cm. diam. repand pulvinate, thick (3—4 mm.), surface even, white and subtomentose finally undulate-colliculose and black, substance almost gelatinous at first, then hard and tough almost like *Daedalea betulina*, at length very brittle and hollow, centrally attached. Perithecia large, ovate, densely crowded, monostichous, the punctiform ostiola alone projecting. Asci narrow—cylindrical, pedicellate, 8-spored, 250 x 8—10 (p. sp.); paraphyses slender, evanescent. Sporidia obliquely uniseriate, fusoid inequilateral or slightly curved, finally opaque, 32—40 x 8—10. Tode (l. c.) gives a very minute and accurate account of this fungus.

NEW SPECIES OF FUNGI FROM VARIOUS LOCALITIES.

BY J. B. ELLIS AND BENJA. M. EVERHART.

(Continued from page 107.)

CHLORIDIUM GLAUCUM, E. & E.—On decaying oak limb. Newfield, N. J., July 30, '88. Effused, glaucous-gray, becoming olive-brown. Hyphae subfasciculate, with spreading tips, 75—100 x 2½—3, faintly septate, simply or sparingly branched, crooked